User Manual

D series

Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

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Conserve y lea estas instrucciones.
Respete y siga todas las advertencias.
El signo de exclamación en un triángulo equilátero pretende alertar al usuario de instrucciones operativas y de mantenimiento (reparación) en la literatura que acompaña al aparato.
ADVERTENCIA: Los aparatos de CLASE I se deben conectar a una toma de corriente eléctrica con conexión a tierra.

Keep these instructions. Read these instructions.
Heed all warnings. Follow all instructions.
The exclamation point within an equilateral triangle is intended to alert the user of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.
WARNING: Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

El rayo con punta de flecha dentro de un triángulo equilátero pretende alertar al usuario de la presencia de voltajes peligrosos no aislados dentro de la envolvente del producto, que puede ser de magnitud suficiente para constituir un riesgo de descarga eléctrica para las personas.
ADVERTENCIA: Para evitar lesiones, este aparato debe estar firmemente sujeto al bastidor, de conformidad con las instrucciones de instalación.
El cableado exterior conectado a estos terminales requiere de su instalación por una persona instruida y el uso de cables flexibles preparados.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence if uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
WARNING: To prevent injury, this apparatus must be securely attached to the rack in accordance with the installation instructions.
The connected outer wiring to these terminals requires of its installation by an instructed person and the use of a flexible the cable already prepared.

No exponga este equipo a la lluvia o humedad. No use este aparato cerca del agua (piscinas y fuentes, por ejemplo). No exponga el equipo a salpicaduras ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas. Equipo IP-20. Limpie con un paño seco. No use limpiadores con disolventes.

Do not expose this device to rain or moisture. Do not use this apparatus near water (for example, swimming pools and fountains). Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit. IP-20 equipment. Clean only with a dry cloth. Do not use any solvent based cleaners.

No instale el aparato cerca de fuentes de calor tales como radiadores, calefactores, estufas u otros aparatos que produzcan calor. No bloquee las aberturas de ventilación, e instalar de acuerdo con las instrucciones del fabricante. Los ventiladores de refrigeración succionan aire fresco del frontal y sale caliente por la parte trasera de la unidad a través de las rejillas de ventilación. La parte delantera y trasera del amplificador debe tener una exposición al aire libre (por ejemplo, en un rack las puertas delanteras y traseras abiertas), con cámara de aire de 2 cm a los lados y la parte superior. SI AL AIRE NO SE LE PERMITE ESCAPAR POR ATRÁS, SE SOBRECALENTARÁ LA UNIDAD. Tenga cuidado al montar otro equipo en el mismo rack. Diseñado para funcionar entre 15ºC y 35ºC, con el 75% de humedad relativa máxima.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus that produce heat.
Do not block any ventilation openings, install in accordance with the manufacturer's instructions.
The cooling fans suck cool air in through the front and blow hot air out at the rear of the unit through the ventilating grills. The front and rear of the amplifier should have free exposure to the air (i.e. in a rack leave the front and rear doors off), with 2cm air gap at the sides and top. IF AIR IS NOT ALLOWED TO ESCAPE FROM THE REAR, OVER-HEATING WILL OCCUR. Take care when mounting other equipment in the same rack.
Working temperature ranges from 15ºC to 35ºC with a relative humidity of 75%.

Desconecte este aparato durante tormentas eléctricas, terremotos o cuando no se vaya a emplear durante largos periodos.

Unplug this apparatus during ligtning storms, earthquakes or when unused for long periods of time.

Tenga en cuenta que la tensión nominal de alimentación es el valor indicado en la etiqueta, con un rango ±10% de ese valor (según IEC 60065:2001).

Take into account that the nominal AC voltage is the value shown in the equipment ±10% (according to IEC 60065:2001).

Proteja el cable de alimentación de ser pisado o aplastado, especialmente en los enchufes, receptáculos y en el punto en el que salen del aparato. Confíe las reparaciones a personal cualificado. Se requiere servicio cuando el aparato ha sido dañado de alguna manera, como por ejemplo si el cable de alimentación o el enchufe está dañado, se ha derramado líquido o han caído objetos dentro del aparato, el aparato ha sido expuesto a la lluvia o la humedad, no funciona con normalidad o se ha caído. El interruptor de alimentación deberá permanecer fácilmente accesible. Para desconectar completamente este aparato de la red eléctrica, desconecte el cable de alimentación del interruptor de corriente principal. Esta unidad está equipada con un cable de alimentación de 3 hilos. Por razones de seguridad, LA CONEXIÓN A TIERRA NO DEBE DESCONECTARSE EN NINGUNA CIRCUNSTANCIA.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
The mains circuit breaker shall remain readily accessible.
To completely disconnect this equipment from the AC mains, disconnect the power cord from the mains circuit breaker.
This unit is fitted with a 3-wire power cord. For safety reasons, THE EARTH LEAD SHOULD NOT BE DISCONNECTED IN ANY CIRCUMSTANCE.

Cuando la unidad esté montada en un rack y permanentemente conectada a red debe ser instalada con un conector de fácil acceso o con un dispositivo de desconexión omnipolar con al menos 3 mm de distancia entre sus contactos. El interruptor de los amplificadores sólo afecta a uno de los polos de la red eléctrica, por tanto, en las unidades con un cable desmontable el dispositivo de desconexión de red (por ejemplo, el enchufe o la conexión a red), debe ser fácilmente accesible para poder estar completamente desconectado de la red. Sin embargo, en unidades con cable fijo deberá usar un dispositivo de desconexión externo (antes descrito). La instalación deberá seguir todas las normas de instalación vigentes.
Utilice sólo accesorios (por ejemplo, soportes o racks) recomendados por el fabricante. Cuando se utiliza un rack o un carro de transporte, tenga cuidado al mover la combinación carro / aparato para evitar lesiones causadas por un vuelco.

Where the amplifier is mounted in a rack and permanently connected to the mains, then the rack should be installed with a readily accessible connector or an ALL POLE circuit breaker with 3mm breaking distances.
The mains switch on the amplifiers only switches one pole of the mains supply, therefore for units with a detachable cord to be fully disconnected from the mains, the mains disconnect device (ie mains plug or mains coupler) should remain readily operable. For units with a fixed mains lead the external all pole circuit breaker with 3mm breaking distances is the disconnect device and therefore the installation of the amplifier shall be carried out in accordance with all the applicable installation rules.
Only use attachments/accessories specified by the manufacturer. Use only with the cart, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from a tip over.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.

This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the appicable collection point for the recycling of electrical and electronic equipment.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All D.A.S. products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.

DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY

D.A.S. Audio, S.A.
C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España (Spain).

Declara que los amplificadores de la ***serie D***:
Declares that ***D series*** amplifiers:

Cumple con los objetivos esenciales de las Directivas:
Abide by essential objectives relating Directives:

- Directiva de Baja Tensión (Low Voltage Directive) 2006/95/CE
- Directiva de Compatibilidad Electromagnética (EMC) 2004/108/CE
- Directiva RoHS 2002/95/CE
- Directiva RAEE (WEEE) 2002/96/CE

Y es conforme a las siguientes Normas Armonizadas Europeas:
In accordance with Harmonized European Norms:

- EN 60065:2002 Audio, video and similar electronic apparatus. Safety requirements.
- EN 55103-1:1996 Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 1:Emission.
- EN 55103-2:1996 Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2:Immunity.

INTRODUCTION

INSTALLATION: ELECTRICAL

The amplifier has been manufactured to comply with your local power supply requirements, but before connecting the unit to the supply, ensure that the voltage (printed on the rear panel) is correct, and that a mains fuse of the correct type and rating has been fitted.

Make sure power outlets conform to the power requirements listed on the back of the unit. Damage caused by connecting to improper AC voltage is not covered by the warranty.

SAFETY WARNING

Apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Where a MAINS plug or appliance coupler is used as the disconnect device, it should remain readily operable.

Where the amplifier is mounted in a rack and permanently connected to the mains, then the rack should be installed with a readily accessible connector or an ALL POLE circuit breaker with 3mm breaking distances.

This unit is fitted with a 3-wire power connector. For safety reasons, THE EARTH LEAD SHOULD NOT BE DISCONNECTED IN ANY CIRCUMSTANCE. If ground loops are encountered consult the section on input connections later in this manual.

WHERE A FIXED MAINS LEAD IS FITTED, THE WIRING COLOURS ARE:

230V AREAS:
EARTH = GREEN AND YELLOW
NEUTRAL = BLUE
LIVE = BROWN

120V AREAS:
EARTH = GREEN
NEUTRAL = WHITE
LIVE = BLACK

TO PREVENT THE LIKELIHOOD OF SHOCK OR FIRE HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE. DO NOT PLACE OBJECTS CONTAINING LIQUID ON TOP OF THE APPARATUS.

TO AVOID ELECTRICAL SHOCK DO NOT REMOVE COVERS. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

DO NOT USE THE UNIT OF THE ELECTRICAL POWER CORD IS FRAYED OR BROKEN. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs and the point where they exit from the appliance.

ALWAYS OPERATE THE UNIT WITH THE AC GROUND WIRE CONNECTED TO THE ELECTRICAL SYSTEM GROUND. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.

DO NOT REMOVE THE LID. Removing the lid will expose you to potentially dangerous voltages. There are no user serviceable parts inside.

ESD strikes to the unit's front panel that are in excess of 4000 volts may cause disturbance to the status LEDs on the unit. This will not affect audio performance and will be corrected on the next power up cycle.

INSTALLATION: MECHANICAL

To ensure that this equipment performs to specification, it should be mounted in a suitable rack or enclosure as described below. Like all high power amplifiers, it should be kept away from other equipment which is sensitive to magnetic fields. Also, this amplifier may suffer a substantial reduction in performance if it is subjected to, or mounted close to equipment which radiates high RF fields.

Warning: To prevent injury, this apparatus must be securely attached to the rack in accordance with the installation instructions.

When mounting the amplifier in a rack or enclosure:

Be aware that ...

THE FRONT PANEL IS NOT CAPABLE OF SUPPORTING THE UNIT ON ITS OWN.
Make sure that the rear of the unit is adequately supported. The brackets which are supplied fit standard 19 inch (483mm) rack mounting systems.

ENSURE THERE IS ADEQUATE VENTILATION.
The cooling fans suck cool air in through the front and blow hot air out at the rear of the unit through the ventilating grills. The front and rear of the amplifier should have free exposure to the air (i.e. in a rack leave the front & rear doors off), with 2cm air gap at the sides.

IF AIR IS NOT ALLOWED TO ESCAPE FROM THE REAR, OVER-HEATING WILL OCCUR.
Take care when mounting other equipment in the same rack.

Make sure that the rack unit has a separate earth connection (technical earth).

The high frequency resonant converters in the *D-100* amplifiers have been designed to have very low radio frequency (RF) emissions; however even these low level emissions can cause interference with other equipment.

In order for this to be minimised, the amplifier should be mounted in a metal rack enclosure, which should have a separate (technical) Earth. Alternatively a separate earth should be attached to the amplifier at the rear rack mounting bracket.

Dynamic Amplifier Performance Measurements

The *D-100* is the very latest example of a 'dynamic amplifier'. This new 'breed' of power amplifiers provide very high peak power levels in a much smaller, and lighter, package than previously possible with conventional amplifiers.

They are designed specifically for today's high power audio installations, which use multiple speakers with electronic crossovers or speaker controllers. These systems can handle very high transient signals that far exceed their RMS power rating. The *D-100* amplifiers have been designed to match this requirement and can deliver huge levels of power for short durations.

In order to protect themselves and the loudspeakers that they are driving, continuous signals such as sine waves, are automatically detected and reduced (ramped down) to a safe level.

When trying to measure the power output however, continuous signals will give totally incorrect results. A dynamic signal, such as a tone burst, should be used and the levels measured by monitoring the waveform on an oscilloscope. The power envelope can then be accurately measured.

Our power output figures are measured using signals with known Crest Factors and are quoted at the rear of this manual and on our website.

Please refer to the technical area of our website for further information.

Notes and Switching On

Read all documentation before operating your equipment and retain all documentation for future reference.

Do not spill water or other liquids into or on the unit and do not operate the unit while standing in liquid.

Do not block fan intake or rear ventilation outlets or operate the unit in an environment that could impede the free flow of air around the unit.

If the unit is used in an extremely dusty or smoky environment, it should be cleaned of any collected debris at regular intervals.

It is important that the power output of your amplifier is matched to the power handling capacity of your loudspeaker. If not, damage to the loudspeaker could occur.

Switching On…

At 'switch-on' the protection circuit will initially activate whilst the circuits stabilise, indicated by the red A/P LED illuminating, in addition to various other LEDs. After a few seconds the red A/P LED will extinguish indicating a satisfactory working condition.

Other LEDs may remain illuminated depending upon rear panel switch settings and input connections. If the A/P LED does not extinguish after 5 seconds the unit may be faulty or some external connections may be incorrect or inappropriate. If this occurs you should power down the unit and remove all external connections (except for the mains power supply) and repeat the power up sequence. If the problem persists please contact us.

Maintenance

These maintenance instructions are for use by qualified personnel only. Before any routine maintenance, please ensure that your amplifier is disconnected from the mains supply!

The filter behind the air intake apertures on the front of your amplifier should be cleaned or replaced periodically, e.g. 12-24 months. (Filters in amplifiers located in more 'dirty' atmospheres may require more frequent maintenance).

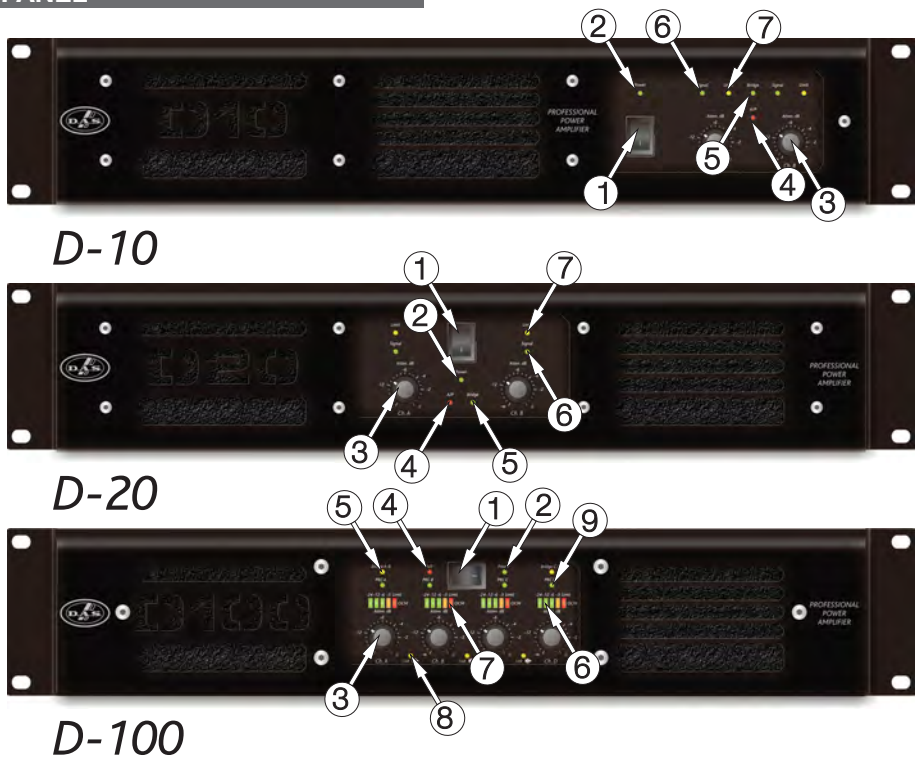
The filter should be 'dry' cleaned, using a vacuum cleaner preferably. Running the unit without a filter is not recommended unless it is within a 'clean room'. Replacement filter material is available.

If the fan vents on the rear of the amplifier develop a build-up of dust/debris on the finger guards, they can be cleaned with a dry paintbrush and a vacuum cleaner.

The casework of the amplifier may be cleaned with a lightly dampened cloth – do not use any solvents as they will damage the paint finish and could remove printing.

If you have any doubts about carrying out maintenance, please refer to a service engineer or contact your local dealer.

FRONT PANEL



1: Power Switch: This single pole switch turns the amplifier fully off (but does NOT isolate it from the mains supply).

2: Power LED: This indicates when the amplifier is active. This does NOT indicate the presence of a mains supply when the power switch is OFF.

3: Attenuation Controls: These are analogue controls allowing precise level settings. Note that in bridged (mono) mode some controls may be inactive.

4: A/P (Auto Protect) LED: If a condition exists, either internally or externally, that could cause damage to either the amplifier or the speakers, the protection circuit will disengage the outputs and the A/P LED will illuminate. The amplifier will continue to be monitored and depending on the type of fault, will either reset after the fault has cleared or require manual resetting by switching off at the mains switch and then on again after a few seconds. If the outputs are shorted or if DC is present, the protection circuit will disengage the outputs and the A/P LED will illuminate. Temperature related faults will reset if the unit has cooled sufficiently. Output short circuits will require manual reset after clearing the fault.

5: Bridge LED: This illuminates when a channel pair have been switched into bridged (mono) mode (channel A+B or C+D). Note that the partner channel's LEDs and controls are disabled when a pair of channels are bridged. Bridge switches are on the rear panel.

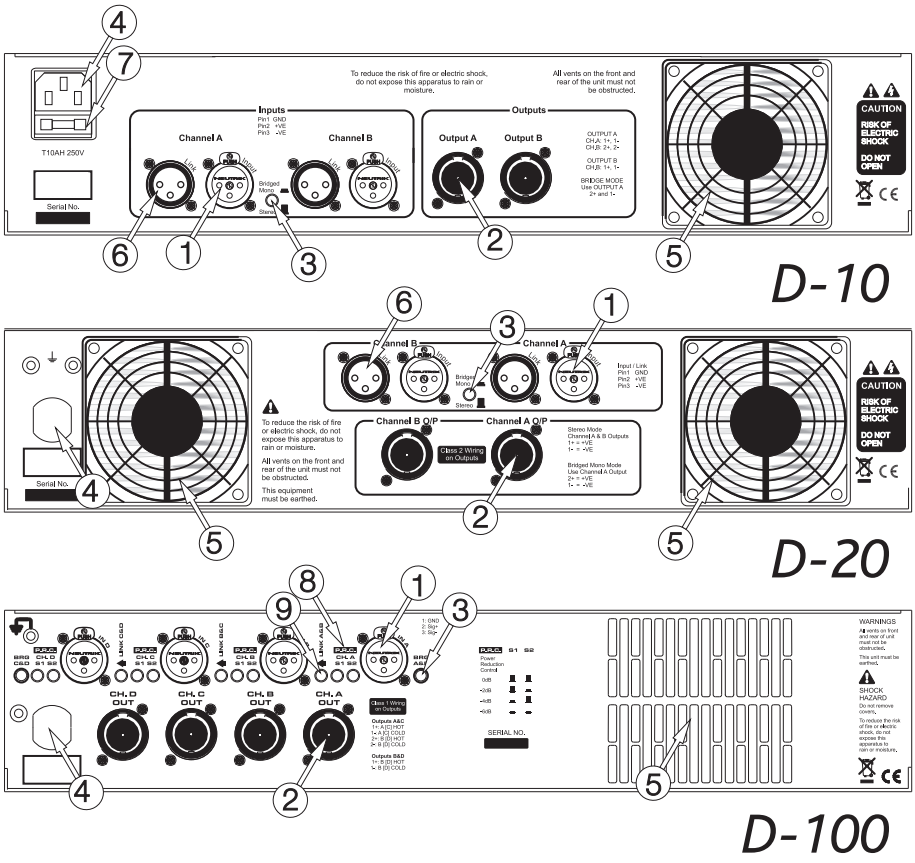
6: The ***D-10*** and ***D-20*** have Signal LEDs that are active from a minimum output level of approximately 10 Watts and are an indication only of signal presence. The ***D-100*** has Signal Meter and OCM indicators: LED bar graphs show instantaneous level on each channel to indicate proximity to the limiter threshold. Note that if the PRC system is in operation on any channel, this will affect the readout shown on the respective meter. The red LED in the meter will illuminate when the limiter threshold has been reached and limiting is occurring. The output current monitor (OCM) may activate to limit the output current of the amplifier channel - this can occur even if the amplifier has not reached clipping point. The OCM indicator can operate independently of the bar graph meter. Typical conditions that may trigger the OCM circuitry would be very low load impedance, or high subsonic or VHF levels.

7: Limit LEDs: The amplifiers incorporate signal limiters, which are preset to prevent clipping with high levels of drive. The amber LEDs on the front panel illuminate to indicate operation of the limiters.

8: Link LED: This indicates if the channel is linked to its immediate neighbour. If this is illuminated, the attenuation control of the channel to the immediate right will not function as both channels are being fed from the left hand channel. The link switches are on the rear panel.

9: PRC LED: This illuminates if the Power Reduction Control has been enabled on the respective channel. PRC switches are on the rear panel.

REAR PANEL



1: Input XLR sockets: Connect signal inputs to these sockets, wired pin 2 hot, 3 cold, 1 ground. For sensitivity and impedance of these inputs, please see the specifications on page 11. When running in bridged (mono) mode, only input A is used (except ***D-100***).

2: ***D-10*** & ***D-20***
Channel A output Speakon socket: Normal output is on pins 1+ hot, 1- cold. Channel B's output is also wired to this socket to enable a single NL4 to provide both channels and to facilitate easier wiring in bridged mode. Channel B is wired pins 2+ hot, 2- cold. Channel B output Speakon socket: Normal output is on pins 1+ hot, 1- cold.

D-100
Channel A output Speakon socket: Normal output is on pins 1+ hot, 1- cold. Channel B's output is also wired to this socket to enable a single NL4 to provide both channels and to facilitate easier wiring in bridged mode. Channel B is wired pins 2+ hot, 2- cold. Similarly channel C's output Speakon socket carries Channel D's output. Check the table on the rear panel for details.

3: ***D-10*** & ***D-20***
Bridged (Mono) switch: Depress this switch to run the amplifier in bridged mode. Note that the output must be taken from channel A's output Speakon connector, on pins 2+ hot, 1- cold.

D-100
Bridged (mono) switch (A+B): Press this switch to run this pair of amplifier channels in bridged mode. To run C+D bridged, press the switch on the far left of the panel, beside channel D's input XLR.

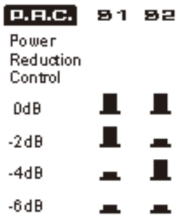
4: Mains inlet (only ***D-10***) & Power Cord.

5: Fan outlet: The variable speed fans suck air in through the front vents and out through the back of the amplifier.

6: Link out XLR sockets: These are passively connected directly to their respective inputs to allow for parallel input connections to other amplifiers. As such, they will function even if the amplifier is turned off.

7: Mains Fuse (only ***D-10***).

8: PRC switches: Each channel of the amplifier may be power limited independently using these pairs of switches in three stages, offering 2, 4 and 6dB of Power Reduction Control. The settings for these switches are on the rear panel for quick reference.



9: Link switch: Press this switch to link the input of the channel to its immediate left. Multiple channels may be linked using these switches so, for example, to link all outputs to input A, press all three switches IN and use input A only. The front panel attenuators will still operate independently when channels are linked.

CONNECTIONS

INPUTS

The inputs are made via 3-pin XLR connectors, which are electronically balanced and should be connected via a high grade twin core screened cable, as follows:

PIN2 - Hot (signal +). Signal Hot.
PIN3 - Cold (signal -). Signal Cold.
PIN1 - Screen (see note).
Connected to the chassis of the unbalanced equipment
or left disconnected at the unbalanced end.

The amplifier is designed to operate with fully balanced equipment and ground loops or loss of performance may be experienced if connected to unbalanced sources.

NOTE: This amplifier is wired to the latest industry recommendations. PIN1 is connected directly to the chassis/mains earth. If ground loops (mains hum) are encountered remove the screen connection from the other end of the cable and leave it open circuit. If problems persist, consult your dealer/ supplier, DO NOT TAMPER WITH OR ALTER ANY GROUND (EARTH) CONNECTIONS INSIDE THE AMPLIFIER.

D-10 & *D-20*: For bridged operation input should be made to channel A only and the rear panel switch set for bridged mode. Channel B will then be fed out of phase with channel A.

D-100: For bridged operation input should be made to channel A (or C) only and the rear panel switch set for bridged mode for the appropriate pair of channels.

OUTPUTS

The speaker outputs are via Neutrik Speakon connectors. Only 2 of the 4 poles are used. 2 pole (NL2FC) or 4 pole (NL4FC) connectors can be used. Terminations are as follows :

HOT Pin +1
COLD Pin -1

Additionally Channel A Speakon connector carries Channel B output on Pins +2 & -2 to allow easy bi-amping or bridged operation.

HOT Pin +2
COLD Pin -2

NOTE: 1.- Although the "cold" output terminals are nominally at 0V., they should not be joined together, otherwise cross-talk may be introduced.
2.- Because the currents involved are very high, the speaker cables should conform to the following minimum requirements, otherwise the losses will cause the cables to get hot and audio power will be reduced:

D-10, 12A *D-20*, 16A *D-100*, 20A - all into 4ohm speaker loads

NOTE: Do not connect the inputs/outputs to any other voltage source such as a battery, mains source or power supply, regardless of whether the amplifier is turned on or off.
Do not run the output of any amplifier channel back into another channel's input and do not parallel or series-connect an amplifier output with any other amplifier output.

LINK SOCKET (only *D-10* & *D-20*)

Each channel is provided with a 3-pin XLR connector marked 'LINK' which allows the input signal to be linked to further amplifiers etc. The connections are the same as for the input XLR.

BRIDGED (MONO) OPERATION

Use centre Speakon connector marked 'BRIDGED' and connect as follows:

HOT Pin +1 (Channel A - IN PHASE)
COLD Pin -1 (Channel B - OUT OF PHASE)

When operating in bridged mode, the minimum impedances are doubled. The minimum load in bridged mode is: *D-10*: 4 ohms, *D-20*: 4 ohms, *D-100*: 4 ohms.

Only** D-100**:

Additionally Channel A Speakon connector carries Channel B output on Pins +2 & -2 to allow easy bi-amping or bridged operation using a single NL4 connector. Similarly, Channel C's Speakon connector also carries Channel D output.

Output Connector A
Pin 2+: Hot Ch. B
Pin 2-: Cold Ch. B
Output Connector C
Pin 2+: Hot Ch. D
Pin 2-: Cold Ch. D

For bi-amped operation, connect as above.

There must be no shared connections between channels.

Negative output terminals must not be joined together as they are not both at ground potential. Connecting them together will damage the amplifier and void the warranty!

As the currents involved are very high, and to ensure best performance, the speaker cables should be kept as short as possible and conform to the following minimum requirements (***D-100***, 20A into 4 Ohm speaker loads).

When operating the amplifier into loads of less than 4 Ohms, be aware that the current capacity of the speaker cables will need to be increased above the values quoted here.

Do not connect the inputs/outputs to any other voltage source such as a battery, mains source or power supply, regardless of whether the amplifier is turned on or off.

Do not run the output of any amplifier channel back into another channel's input and do not parallel or series-connect an amplifier output with any other amplifier output.

Pairs of channels may be independently bridged – channel pair A&B, and/or channel pair C&D.

The method is the same for both channel pairs:

Supply signal to Channel A or C input only and push in the appropriate rear panel switch marked “BRG A&B” or “BRG C&D”.

Use Channel A or C's Output Speakon connector and connect as follows:

Pin 2+: Hot
Pin 1-: Cold

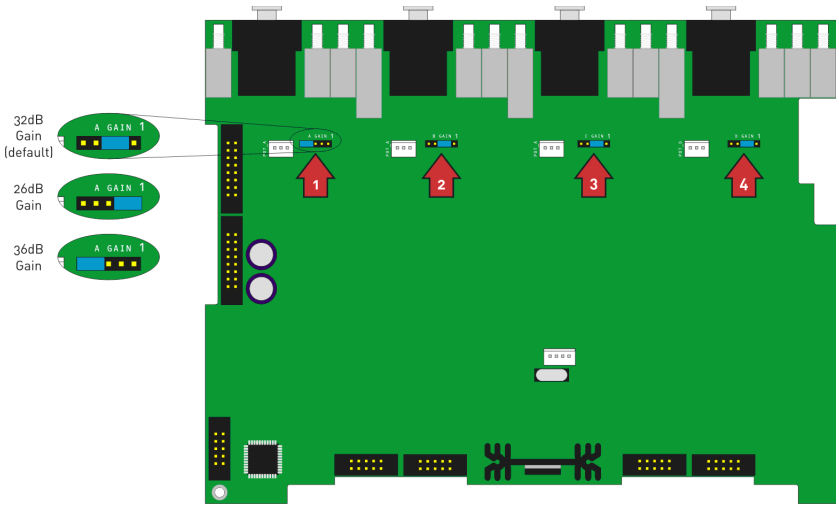
When operating in bridged mode, the minimum impedances are doubled. The minimum load in bridged mode is 4 ohms.

Changing the Gain of Your Amplifier: Internal Adjustments!

These instructions are for use by qualified personnel only. Before any routine maintenance, please ensure that your amplifier is disconnected from the mains supply!

Gain/Sensitivity Settings (*D-100*)

Adjustment is by moving a link on the input PCB (PCB741) – one link for each channel. Channel A's link is number 1, channel B's is number 2 and so on. The gain may be set to 26, 32 or 36dB (factory setting).



Remember, setting higher gain does not change the maximum available power but changes the level of signal input to achieve maximum power. In any case, provided that the input signal is less than 20dBu/7.7V, the built in limiter circuit will prevent distortion within the amplifier.

The gain should be set to match the signal level from the source – mixer, equaliser etc.

Note: The gain of ***D-10*** is fixed to 32dB. The gain of ***D-20*** is 32dB (factory setting) or 36 dB by internal link.

SPECIFICATIONS

Parameter (Units)	D-100	D-10	D-20
Output Power (per channel) (Watts) (Crest Factor of 4.8)			
8 ohms	1400	450	625
4 ohms	2800	750	1150
2 ohms	3700	1150	2100
Output Power (bridged) (Watts)			
8 ohms	5300	1500	2300
4 ohms	7400	2300	4200
Additional Specifications			
THD+N:(%)(4 ohms)@1kHz (@1dB below max output power) <	0,08	0,008	0,008
THD+N:(%)(4 ohms)@20Hz to 20kHz (@3dB below max output power) <	0,15	0,03	0,03
Gain Options (dB):	26/32/36	32	32/36
Sensitivity Options (for maximum power) (dBu):	16/10/6	3,5	7.5/3.5
Sensitivity Options (for maximum power) (Volts):	4.9/2.5/1.5	1,2	1.8/1.2
Frequency Response - 20Hz to 20kHz (dB):	±0.5	+0 / -0.5	+0 / -0.5
Input Impedance - Active balanced (k ohms):	20		
Input CMRR (dB):	>60		
Hum & Noise (dB below max output):	-105	-104	-106
Damping Factor: into 8 ohms:	>200 @100Hz	>400 @1kHz	
Output Circuitry:	D	AB	AB
Power Consumption: Nominal @ 240v (4 ohms)(A):	7	1,9	2,8
Power Consumption: Nominal @ 120v (4 ohms)(A):	14	3,8	5,6
Dimensions (mm): H x W x D:	88x482x428		88x482x460
Dimensions (in): H x W x D:	3,5x19x16,9		3,5x19x18,2
Weight: (Kg):	12	13,8	20,42
Weight: (lb):	26,4	30,36	44,92

Product improvement through research and development is an ongoing process at D.A.S.
All specifications are subject to change without notice.

APPENDIX I

Power Consumption and Thermal Emissions: *D-100*

Mains (V)	Load (R)	Current Draw (A)				Thermal Emissions (W)			
		No Sig'l	**Light**	**Average**	**Heavy**	**No Sig'l**	**Light**	**Average**	**Heavy**
240	**8**	2.1	3.0	4.5	8.3	504	528	566	660
240	**4**	2.1	3.9	7.0	14.4	504	551	628	816
240	**2**	2.1	4.5	8.6	19.1	504	564	668	936
120	**8**	4.2	6.0	9.0	16.6	504	528	566	660
120	**4**	4.2	7.8	14.0	28.8	504	551	628	816
120	**2**	4.2	9.0	17.2	38.2	504	564	668	936

No Sig'l = Quiescent, Light = Crest Factor of 7.8(18dB),
Average = Crest Factor of 4.8(14dB), Heavy = Crest Factor of 2.8(9dB)
For details of measurement methods please refer to the Technical Support area of our website.

PRC Settings and Maximum Output: *D-100*

Power Reduction Control Setting	Per Channel	Bridged Pair
Maximum Power into 8 ohms (W)	1400	5300
-2dB PRC	980	3700
-4dB PRC	560	2100
-6dB PRC	310	1175
Maximum Power into 4 ohms (W)	2800	7400
-2dB PRC	1950	5160
-4dB PRC	1110	2940
-6dB PRC	620	1640
Maximum Power into 2 ohms (W)	3700	N/A
-2dB PRC	2580	N/A
-4dB PRC	1470	N/A
-6dB PRC	820	N/A

APPENDIX II

T LINE - OPERATING INSTRUCTIONS (Only *D-10*)

The T Line chassis can be configured with up to 4 transformers of 500W at 100V output, 4 ohms input. Other specifications (70V/50V) are available to special order.

The power rating of each channel is printed on the rear panel.

The connections are via 4-pole SPEAKON connectors (NL4FC).

INPUTS (4 ohms) are: +1 = HOT, -1 = COLD
OUTPUTS (100V) are: +2 = HOT, -2 = COLD

THERE ARE NO USER-SERVICEABLE PARTS INSIDE AND NO MAINTENANCE IS REQUIRED.

IN THE EVENT OF A FAILURE, REFER TO A QUALIFIED SERVICE ENGINEER.

Parts are available from D.A.S.Audio, S.A.

TECHNICAL SPECIFICATION

		T LINE
Rated power handling @ input impedance - 4Ω		500W
Output impedance rated	@ 100V (Standard)	20.0Ω
	@ 70V (Special)	9.8Ω
	@ 50V (Only)	5.0Ω
Frequency response	50Hz-16kHz	± 1dB
Distortion (THD)	50Hz-16kHz	<0.03%
Weight (each)	Chassis only	12kgs
	500W transformer	2.8kgs
Dimensions (mm) - 2U		88 x 482 x 428

When mounting the amplifier in a rack or enclosure, ensure that :-
The rear of the unit is adequately supported. The brackets which are supplied fit standard 19 inch (483mm) rack mounting systems. THE FRONT PANEL IS NOT CAPABLE OF SUPPORTING THE UNIT ON ITS OWN.

(The general *D-10* safety warnings, precautions and service advice also apply to the T LINE.)

APPENDIX III

INSTRUCTIONS FOR USING *D-10* AMPLIFIERS WITH 100V/70V LINE TRANSFORMERS

Frequency response

It is necessary to provide some low frequency roll off to prevent the possibility of the line transformer saturating.

On the ***D-10*** the roll off is included on the main board as standard. To bring the 63 Hz roll off into circuit, remove the 4 jumper links at 'hpf'.

The response must be at least -3dB at 70 Hz and roll off at minimum 12dB per octave.

LINE TRANSFORMER LEAD OUTS

500W single 100V winding:

Primary:	Orange = +ve, Black = -ve (4 ohms)
Secondary:	Yellow = +ve, Grey = -ve (100V)
	Blue = centre tap, for monitoring purposes only

Note:

D-100 will give you 100V line out at the terminals.
D-20 will give you 70V line out at the terminals.

www.dasaudio.com

UM_D_AMP_01_EN

D.A.S. AUDIO, S.A.
C/. Islas Baleares, 24
46988 Fuente del Jarro
Valencia, SPAIN
Tel. 96 134 0525
Tel. Intl. +34 96 134 0860
Fax 96 134 0607
Fax Intl. +34 96 134 0607

D.A.S. AUDIO OF AMERICA, INC.
Sunset Palmetto Park
6816 NW 77th Court.
Miami, FL. 33166 - U.S.A.
TOLL FREE: 1-888DAS4USA
Tel. +1 305 436 0521
Fax +1 305 436 0528

D.A.S. AUDIO ASIA PTE. LTD.
25 Kaki Bukit Crescent #01-00/02-00
Kaki Bukit Techpark 1
Singapore 416256
Tel. +65 6742 0151
Fax +65 6742 0157